REMARKS

Claims 1 and 7 have been amended. Claim 10 has been added.

The Examiner has rejected claims 1, 4, 5, 7 and 9 under 35 U.S.C. 102(b) as being anticipated by Noriyuki (JP 2000-069356). The Examiner has rejected claims 2 and 6 under 35 U.S.C. 103(a) as being unpatentable over Noriyuki in view of Kubo (US Patent 7,030,911). Lastly, the Examiner has rejected claim 3 under 35 U.S.C. 103(a) as being unpatentable over Noriyuki in view of Numata et al. (US Patent 6,654,062) ("Numata"). Applicant has amended independent claim 1 and 7 and with respect to these claims, and their dependent claims, the Examiner's rejections are respectfully traversed.

Independent claim 1 has been amended to recite an image sensing apparatus comprising: a first exposure level calculation device which calculates a first exposure level based on a result of photometry performed after an image sensing preparation instruction by an image sensing preparation instruction member, a second exposure level calculation device which calculates a second exposure level of an image signal output after image sensing, an exposure error calculation device which calculates an exposure error between the first exposure level calculated by the first exposure level calculation device and the second exposure level calculated by the second exposure level calculation device, and an exposure error correction device which performs a correction operation of the exposure error by using the exposure error calculated by the exposure error calculation device, when the image sensing apparatus is in an auto exposure control mode, wherein the exposure error correction device does not perform the correction operation when the image sensing apparatus is in at least one of a state in which an exposure correction value is set, a state in which an exposure condition obtained by photometry is held, a state in which a photometry method is set to spot photometry, a state in which a long

shutter mode in which an exposure time is longer than a predetermined time period is set, a state in which brightness of an object exceeds a predetermined range, and a state in which an image sensing instruction by an image sensing instruction member is entered after a predetermined time is elapsed after the image sensing preparation instruction is entered. Independent claim 7 has been similarly amended.

The constructions recited in amended independent claims 1 and 7 are not taught or suggested by the cited prior art. More particularly, the Noriyuki reference does not teach or suggest an exposure error correction device that performs a correction operation based on a calculated exposure error between an exposure level of a sensed image and a correct exposure level when the image sensing apparatus is in an auto exposure control mode and wherein the exposure error correction device does not perform the correction operation when the image sensing apparatus is in the auto exposure control mode and in at least one of a state in which (1) an exposure correction value is set, (2) a state in which an exposure condition obtained by photometry is held, (3) a state in which a photometry method is set to spot photometry, (4) a state in which a long shutter mode in which an exposure time is longer than a predetermined time period is set, (5) a state in which brightness of an object exceeds a predetermined range and (6) a state in which an image sensing instruction by an image sensing instruction member is entered after a predetermined time is elapsed after the image sensing preparation instruction is entered as recited in amended independent claim 1. This structure ensures that the error correction operation is not performed while the image sensing apparatus is in the auto exposure control mode if the image sensing apparatus is also in a state in which an appropriate result cannot be obtained by the exposure error correction operation.

Noriyuki discloses an image pickup device including a level amendment section 19 for amending the exposure level of a stored digital image to correct for exposure variations resulting from errors associated with photometry, diaphragm opening and exposure time, and a control section 20 which includes a control value operation part 201, an exposure level operation part 202 (exposure level arithmetic section 202) and an amendment gain operation part 203. See, Fig. 5; abstract; paragraphs [0033], [0035]. In Noriyuki, the level amendment section 19 is controlled by the amendment gain operation part 203, which calculates an amendment level value based on a ratio of a correct exposure level value for capturing an image and a resulting actual exposure level value of a captured digital image stored in image memory (abstract; paragraph [0036], lines 3-8). In this calculation, the correct exposure level (Ev) value is calculated and supplied to the amendment gain operation part 203 by the control value operation part 201 based on supplied photometry (paragraph [0035], lines 2-6). In addition, the actual exposure level value (AveC) in Noriyuki is determined and supplied to the amendment gain operation part 203 by the exposure level operation part 202 based on the digital image stored in image memory (paragraph [0036], lines 1-2). Noriyuki teaches that the amendment level value calculated by the amendment gain operation part 203 is then used by the amendment section 19 to process the digital image in image memory. (Abstract; paragraph [0054]). Noriyuki further teaches that in order to minimize the signal to noise ratio of the processed digital image, the amendment level values applied to the digital image in image memory are restricted to values within a range between predetermined minimum and maximum levels. (paragraphs [0052]-[0053]). In Noriyuki, if the ratio of the correct exposure level value to the actual exposure level value is within a range of small values, then exposure correction is not applied to the stored digital image. (paragraph [0053]).

Therefore, Noriyuki discloses applying exposure correction to a stored digital image based on a calculated amendment level value, and determining whether to not to apply the exposure correction to the image based on whether the ratio of the correct exposure level value to the actual exposure level value is within a predetermined value. That is, Noriyuki teaches that the exposure correction is performed on the image unless the ratio of the correct exposure level value to the actual exposure level value is within a range of small values. However, Noriyuki is completely silent as determining whether or not to perform the exposure correction based on the state of the camera or of not performing the exposure correction when the camera is in one or more predetermined states. Rather, Noriyuki only teaches limiting the correction value used for exposure correction to a range of values between a predetermined minimum and maximum values, and performing the exposure correction processing if the ratio of the correct exposure level value to the actual exposure level value is sufficiently small.

Therefore, there is no teaching or suggestion in Noriyuki of an exposure error correction device that performs a correction operation based on a calculated exposure error between an exposure level of a sensed image and a correct exposure level when the image sensing apparatus is in an auto exposure control mode and wherein the exposure error correction device does not perform the correction operation when the image sensing apparatus is in the auto exposure control mode and in at least one of a state in which (1) an exposure correction value is set, (2) a state in which an exposure condition obtained by photometry is held, (3) a state in which a photometry method is set to spot photometry, (4) a state in which a long shutter mode in which an exposure time is longer than a predetermined time period is set, (5) a state in which brightness of an object exceeds a predetermined range and (6) a state in which an image sensing

instruction by an image sensing instruction member is entered after a predetermined time is elapsed after the image sensing preparation instruction is entered.

The Kubo patent also fails to teach or suggest these features. In particular, the Examiner has argued that Kubo teaches a digital camera exposure control method that comprises of a setting state (fig. 6 and col. 7, lines 15-20, noted that the flow chart depicts the operation state of the digital camera) of the image sensing apparatus and includes at least one of a state in which an exposure correction value is set, a state in which an exposure condition obtained by photometry is held, a state in which a photometry method is ste to spot photometry , a state in which a manual exposure mode is set, and a state in which a long shutter mode (col. 7, lines 48-56, noted that when S2 switch is not pressed and S1 switch continues being on for not less than the predetermined time, it is determined that the exposure time is long) is set, and when any one of the states is set, the exposure correction calculation device does not calculate the correction amount of the exposure error value and the exposure error correction device does not correct the exposure error (col. 7, lines 48-56, since that when the operation state is returned back to #5, the exposure control value #27 will not be carried out in use, thus there will be no correction amount to be used to correct the exposure error) of the sensed image. Applicant has reviewed Fig. 6 and Col. 7, lines 48-56 of Kubo, cited by the Examiner, and respectfully disagrees with the Examiner's arguments.

In particular, Fig. 6 of Kubo shows a flow chart of a camera operation when the shooting mode is selected and the camera is brought into a preview state. See, Col. 7, lines 15-20. Kubo teaches that when shooting is performed with a predetermined exposure time (step #5), photometric measurement, calorimetric measurement and distance measurement are performed (step #9) and based on these measurements, auto-exposure, WB, gain and AF are set

(step #11), signal processing are performed on the shot image (step #13) and processed frame image is previewed (step #15). The camera of Kubo then determines whether S1 switch is on, and if the S1 switch is on, then the AWB and AF values are locked (#19) and exposure amount Ev and exposure control values are decided (#21), while if the switch S1 is not on, the process returns to step #5. See Col. 7, lines 37-47. Col. 7, lines 48-56 of Kubo teach that in the next step, it is determined whether the release switch S2 is turned on, and if the release switch S2 is not turned on, then it is determined whether a predetermined time has passed (#25). If a predetermined time has not passed, then the processing in Kubo returns to step #19, while if a predetermined time has passed then the processing returns to step #5 and it is decided that the user does not intent to perform the shooting operation.

Thus, column 7, lines 48-56 of Kubo, which were cited by the Examiner, disclose that the camera determines whether or not a release switch is pressed so as to determine whether or not the user intends to perform the shooting operation, and that if the release switch is not turned on within a predetermined time, it is determined that the user does not intend to perform the shooting operation and the photometry, colorimetry and distance measurement operations are performed again for a new shooting operation. However, the determination in Kubo of whether or not the release switch is turned on within a predetermined time period is not in any way equivalent to a long shutter mode of applicant's invention in which an exposure time period is longer than a predetermined time period, and thus, there is no teaching or suggestion in Kubo of not performing the correction operation when the image sensing apparatus is in the auto-exposure mode and in a state in which a long shutter mode in which an exposure time is longer than a predetermined time period is set. Rather, in Kubo, the camera processing merely waits for the release switch to be turned on for a predetermined time period before returning to

the initial setting operations of the camera. Moreover, in Kubo, after the release switch S2 is not turned on within a predetermined time period, the same measurement and exposure amount determination operations are repeated, and there is no change in the operation of the image sensing operation of the camera when the release switch is not turned on within a predetermined time period.

Accordingly, there is no teaching or suggestion in Kubo of an exposure error correction device which performs a correction operation of the exposure error by using the exposure error calculated by the exposure error calculation device, when the image sensing apparatus is in an auto exposure control mode, wherein the exposure error correction device does not perform the correction operation when the image sensing apparatus is in at least one of a state in which an exposure correction value is set, a state in which an exposure condition obtained by photometry is held, a state in which a photometry method is set to spot photometry, a state in which a long shutter mode in which an exposure time is longer than a predetermined time period is set, a state in which brightness of an object exceeds a predetermined range, and a state in which an image sensing instruction by an image sensing instruction member is entered after a predetermined time is elapsed after the image sensing preparation instruction is entered. Applicant's amended independent claims 1 and 7, each of which recites such features, and their dependent claims, thus patentably distinguish over the Noriyuki and Kubo references, taken alone or in combination with one another. Moreover, there is nothing added by the Numata reference to change this conclusion.

In view of the above, it is submitted that applicant's claims, as amended, patentably distinguish over cited art of record. Accordingly, reconsideration and allowance of the application and claims is respectfully requested.

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Respectfully submitted,

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